Phase II
Objectives

Medical Undergraduate Curriculum

pusat pengajian sains perubatan. USM
(SCHOOL OF MEDICAL SCIENCES. USM)

02478

INTRODUCTION

The School of Medical Sciences, Universiti Sains Malaysia, was launched in June 1979 as a third Medical Faculty in Malaysia and became the first Medical School to adopt the innovative educational strategy based on an integrated curriculum. The Phase II sees the full fledged implementation of the philosophy:-

S - Student-oriented
P - Problem-based
I - Integrated
C - Community-based
E - Electives
S - Systemic, Self-learning and Spiral

The five-year undergraduate medical curriculum is planned according to the three phases (Phase I, II and III) based on the 'spiral' concept: knowledge gained in the first spiral (Phase I) to be enlarged upon in the second (Phase II) and hence, third spiral (Phase III). Phase I is the basic foundation of medical science. Phase II focuses on the problem-based organ-system approach, whilst Phase II concentrates on the skills of problem solving and clinical clearkship. The curriculum is designed to enable integration between disciplines and systems taking place concurrently.

THE PHASE II PROGRAMME

The Phase II programme is a two-year academic programme emphasizing the problem-based/organ-system approach. Problem-based learning implies teaching-learning processes centering around commonly encountered clinical problems; organ-system approach means that implementation of the programme is organised around organ-system blocks. Altogether there are 14 blocks (12 organ-system blocks, one CFCS block and one Elective blocks). Each block lasts for 5 weeks but the CFCS block is spread out throughout the two years.

Organisation of the teaching-learning activities is based on a set of general objectives approved by School Board. These objectives are arranged according to the organ-system blocks:-

1. Haemopoietic System
2. Reproductive System
3. Musculoskeletal System
4. Head and Neck and Special Senses
5. Psychiatry
6. Communicable Diseases
7. Cardiovascular System
8. Respiratory System
9. Genitourinary System
10. Gastrointestinal System
11. Endocrine System
12. Nervous System

As a dynamic institution, modifications do take place i
implementation with the aim of improvement of effectivene
teaching-learning process.

The successfull implementation of the system requires ful
operation from the staff of all disciplines working to
towards a common goal: to achieve high standard medical edu
and produce graduates capable of providing medical care t
walks of life.

Phase II
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OBJECTIVES OF THE HAEMOPOIETIC SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Describe the process of haemopoiesis in intrauterine and extrauterine life and the factors influencing haemopoiesis (Recall).

2. Describe the structure and composition of normal bone marrow.

3. List the components of blood and describe their structure function and kinetics. (Recall).

4. Describe the structure and functions of the immune system including spleen. (Recall).

5. List the components of the haemostatic mechanisms and explain their role in haemostasis. (Recall).

6. Outline the tests used to investigate the functions of the haemopoietic system.

7. Outline the principles of blood transfusion and their applications.

8. Outline the principles of blood banking and their application.

B. ALTERED STRUCTURE AND FUCNTION

1. Define the term anaemia, and describe the general, structural and functional changes that occur in anaemia.

2. Classify the anaemias in relation to:-

   (i) Morphological types and absolute values
   (ii) Aetiology

3. List the causes of hypochromia and outline the mechanisms involved.

4. Describe the haematological features, mechanisms, causes and clinical features of the following conditions:

   (i) Iron deficiency and blood loss anaemias
   (ii) Megaloblastic anaemias
   (iii) Aplastic anaemias and hypoplastic diseases of bone marrow
   (iv) Anaemias associated with malignant and chronic diseases

5. Classify haemolytic anaemias and outline the mechanisms involved.

6. Outline the laboratory and clinical findings of haemolytic anaemias.

7. Outline the causes and sequelae of haemolysis.

8. Explain the genetic inheritance and geographic distributio of:-

   (i) Thalassemias and other haemoglobinopathies
   (ii) Glucose-6-phosphate dehydrogenase deficiency

9. List the causes of pancytopenia. Explain their distinguishing features and mechanisms involved.

10. Explain the following:

   (i) leucocytosis, leucopenia and granulocytosis
   (ii) leukaemia, leukemoid and leucoerythroblastic reactions
   (iii) splenomegaly/hypersplenism
   (iv) lymphadenopathy

   Outline the causes and mechanisms involved in the above conditions.

11. Define and classify leukaemias and lymphomas.

12. Describe the haematological and immunological features, structural and functional changes in the following conditions:-

   (i) acute leukaemias
   (ii) chronic myeloid leukaemia and myeloproliferative disorders
   (iii) chronic lymphatic leukaemia
   (iv) Hodgkin disease and non-Hodgkin's lymphoma
   (v) multiple myeloma

13. Define the following terms:

   (i) petechiae
   (ii) purpura
   (iii) ecchymosis

14. Classify bleeding disorders.

15. Outline the haematological features and the mechanisms involved in the different types of these bleeding disorders

16. Describe the causes, inheritance, mechanisms, clinical and haematological features of:-

   (i) haemophilia A/B
   (ii) Von Willebrand's disease

17. List the causes of disseminated intravascular coagulation (DIC) and hyperfibrinolysis. Explain the mechanisms involved and describe the clinical, haematological and structural features.

18. List blood products and name their components. Indicate their uses.

19. Outline the complications of blood transfusions.

20. List the causes of haemolytic disease of the newborn and outline the mechanisms involved.

21. Forensic input:

    a. Explain the principles involved in the identification of blood and blood stains (human vs. animal).

    b. Explain the principles involved in the use of ABO, Rh, and other blood groups and HLA typing.

        - in the identification of individuals
        - in disputed paternity

C. CLINICAL APPLICATIONS

1. Obtain a history to unravel the symptoms suggestive of the haemopoietic system and other symptoms secondary or related to that system. (Appendix A).

2. Perform physical examination to elicit signs pertaining to the haemopoietic system disorders. (Appendix B).

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities. (Appendix C).

6. Explain the rationale and scientific basis of the investigations identified.

7. Perform the following laboratory procedures:

    7.1. Prepare, stain and examine peripheral blood smear and identify the normal and abnormal characteristics of the cells seen.

    7.2. Estimate Packed Cell Volume (PCV) and haemoglobin

7.3. Perform a total White Blood Cell Count and differential leucocyte count.

7.4. Perform a Red Blood Cell Count and platelet count.

7.5. Stain and identify reticulocytes.

7.6. Calculate the absolute red cell values.

8. Interpret the results of laboratory investigations in the light of the clinical picture and normal values.

9. Support with evidence the diagnostic choice in a given patient.

10. Outline a management plan comprising of curative, preventive, rehabilitative and psycho-social aspects. (Appendix D).

11. Describe the mechanisms of action, distribution and excretion of drugs prescribed. (Appendix D, no. 2)

12. Appraise complications that can be expected from such medications.

Appendix A - Signs and symptoms of hematological disorders.

1. Excessive bleeding
2. Easy bruising
3. Hemoglobinuria
4. Jaundice
5. Abdominal lumps
6. Anemia, Pallor
7. Purpuras
8. Ecchymosis
9. Koilonychia
10. Glossitis
11. Jaundice
12. Lymphadenopathy
13. Splenomegaly
14. Hepatomegaly
15. Swelling in the neck
16. Leg ulcers
17. Easy fatigability
18. Bone pain
19. Failure to thrive
20. Bone tenderness
21. Hemic sytolic murmur
22. Capillary fragility
23. Petechiae
24. Haematoma
25. Bleeding
26. Bony changes in skull or jaws
27. Signs of heart failure

Appendix B - Laboratory Investigations

Blood:
1. Estimation of Hemoglobin
2. Enumeration of total R.B.C., WBC and platelet
3. Absolute values for red cells
4. Peripheral blood smear
5. Packed cell volume
6. Reticulocyte count
7. Differential leucocyte count
8. Erythrocyte sedimentation rate
9. Serum bilirubin (direct/indirect)
10. Red cell fragility
11. Serum iron and total iron binding capacity
12. Serum B_{12} and folic acid
13. G-6-PD screening test
14. Coomb's test
15. Blood grouping and cross matching
16. Bleeding time
17. Clotting time
18. Prothrombin time
19. Activated partial thromboplastin time
20. Thrombin time
21. Fibrin degradation products (FDP)
22. Plasma Haemosiderin
23. Plasma haptoglobin
24. Serum Ferritin

Urine:
25. Urobilinogen
26. Bilirubin
27. Hemoglobin
28. Bence-Jones proteins

Others:
29. Bone marrow aspiration
30. Lymph node biopsy
31. Radiology: skeletal survey

Appendix C: Principles of Management:

1. Preventive:

   a. Nutrition anaemia
   b. Parasitic-caused anaemia
   c. Mismatched blood transfusion
   d. Rh incompatibility
   e. Hemophilia
   f. Hemoglobinopathy
   g. Secondary aplastic anaemia
   h. Drug-induced blood disorders

2. Therapeutic agents:

   a. Hematinics
   b. Anti leukemic agents
   c. Anti neoplastic agents other than those mentioned in (b)
   d. Blood and derivatives
   e. Haemostatics and fibrinolytics

3. Psychosocial

   Personal, family and socio-environmental problems in patients suffering from inherited and malignant hematological disorders.

OBJECTIVES OF REPRODUCTIVE SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Describe the formation and structure of placenta.

2. Appraise the fetoplacental unit according to the following functions.

   2.1. Transport mechanisms through the placenta
   2.2. Respiratory function of the fetoplacental unit
   2.3. Nutrient transfer through the placenta
   2.4. Fetal energy metabolism
   2.5. Drug transfer
   2.6. Steroid metabolism
   2.7. Fetal growth
   2.8. Immunology of the fetoplacental unit with an introduction to transplant immunology

3. Relate the hormones produced by the placenta to their site of formation.

4. State the function of the placental hormones.

5. Compare the features of male and female pelvis.

6. Derive the development of the reproductive system from Mullerian and Wolfian ducts.

7. Deduce the changes on the epithelium of the female reproductive system brought about by hormonal influence at various ages of a woman's life.

8. Describe the structural and functional changes that occur during pregnancy and lactation in the following systems:

   8.1. Reproductive
   8.2. Cardiovascular
   8.3. Respiratory
   8.4. Alimentary
   8.5. Renal
   8.6. Endocrine
   8.7. Haemopoietic
   8.8. Metabolic

9. Describe the development of common congenital malformation:

   9.1. Bicornuate uterus
   9.2. Septate subseptate uterus
   9.3. Septate vagina

10. Obtain history to unravel the following symptoms:

    10.1. Ameorrhoea
    10.2. Morning sickness
    10.3. Breast engorgement
    10.4. Painful breast
    10.5. Recurrent abortions

11. Perform physical examination to elicit the following signs:

    11.1. Breast changes
    11.2. Skin changes

12. Identify laboratory investigation required such as:

    12.1. Rh and irregular ABO
    12.2. VDRL
    12.3. Anti-rubella
    12.4. Pregnancy test
    12.5. Prenatal screening of congenital abnormality
    12.6. Biochemical screening in pregnancy

13. Explain the rationale and scientific basis of the investigations in light of clinical pictures and normal values.

14. Describe the causes at the following condition:

    14.1. Amenorrhea
    14.2. Menorrhagia
    14.3. Pregnancy wastage

B. ALTERED STRUCTURE AND FUNCTION

1. Describe the structural and functional changes that occur during normal pregnangy and lactation in the following systems:

    1.1 Reproductive
    1.2 Cardiovascular
    1.3 Respiratory
    1.4 Alimentary
    1.5 Renal
    1.6 Endocrine
    1.7 Haemopoietic
    1.8 Metabolic

2. Describe the structural and functional changes that occur in normal puerperium.

3. Describe adjustment reactions associated with pregnancy, childbirth, puerperium and pregnancy wastage.

4. Identify the features of postpartum blues syndrome and postpartum psychosis.

5. Deduce the effect on the fetus from maternal infection with emphasis on teratogenesis.

6. Describe the causation and distribution of maternal and perinatal mortality.

7. List the causative factors responsible for puerperal infection.

8. List the causative factors which produce abnormal vaginal discharge.

9. Describe how infection is introduced into the genital tract.

10. Describe the causes of the following conditions:

    10.1. Amenorrhoea (primary & secondary)
    10.2. Dysmenorrhoea
    10.3. Premenstrual tension
    10.4. Menorrhagia
    10.5. Infertility
    10.6. Pregnancy wastage
    10.7. Utero-vaginal prolapse
    10.8. Oligomenorrhoea
    10.9. Dyspareunia

11. Describe emotional changes during menopause.

12. Describe causative factors of cervical cancer.

13. Outline control measures of cervical cancer.

14. Describe causative factors of male infertility.

15. Describe psyho-social aspects of fertility control.

16. Identify the gross and microscopic features, when given a specimen of the following conditions.

    16.1 Tumours of the ovary
    16.2 Endometriosis
    16.3 Carcinoma of the cervix, uterus, follopian tube and vagina.

17. Describe the development of common congenital malformations

    17.1. Bicornute uterus
    17.2. Septate/subseptate uterus
    17.3. Septate vagina

C. CLINICAL APPLICATIONS

1. Obtain history to unravel the symptoms suggestive of the reproductive system and other symptoms secondary or related to that system. (Appendix A).

2. Perform physical examination to elicit signs pertaining to the reproductive system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs and symptom and epdidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities (Appendix C).

6. Explain the rationale and scientific basis of the investigations in the light of the clinical picture and normal values.

7. Interpret the results of laboratory investigations in the light of clinical picture and normal values.

8. Support with evidence the diagnostic choice in a given patient.

9. Outline a management plan comprising of curative, preventive, rehabilitative and psyho-social aspects. (Appendix D).

10. Describe mechanism of action, distribution and excretion of drugs prescribed. (Appendix E).

11. Appraise complications that can be expected from such medications.

APPENDIX A.

1. Amenorrhoea
2. Morning sickness
3. Breast engorgement
4. Painful breast
5. Bleeding per vaginum
6. Menorrhagia
7. Oligomenorrhoea
8. Dysmenorrhoea
9. Lump in abdomen
10. Dyspareunia
11. Post menopausal bleeding
12. Hot flushes
13. Infertility/sterility
14. Vaginal discharge
15. Pruritis vulvae & ani
16. Recurrent abortion
17. Premenstrual tension
18. Something coming down per vaginum

APPENDIX B

1. Breast changes
2. Cutaneous changes
3. Shape & size of abdomen
4. Height of fundus
5. Presentation, lie, position of fetus
6. Engagement of fetus
7. Fetal heart sound
8. Functional cardiac murmur

APPENDIX C

1. Rh and irregular Ab
2. VDRL
3. Anti-rubella
4. Pregnancy tests
5. Semen analysis
6. Hormone estimation
7. Pre-natal screening of congenital abnormalities
8. Vaginal discharge: microscopy + cytology
9. Radiology:

    Pelvimentry
    Cephalometry
    Fetal death
    Presentation and position
    Hysterosalpigography
    Hazards

10. Ultrasound
11. Biochemical screening in pregnancy to establish fetal wellbeing.

APPENDIX D - Management

1. Normal pregnancy:

    Antenatal care
    Nutrition
    Immunization
    Breast feeding

2. Genital tract infection during pregnancy and peurperium
3. Normal labour and peurperium
4. Pregnancy wastage
5. Infertility
6. Menopausal disorders
7. Vaginal discharge
8. Abnormal cytology
9. Dysmenorrhoea
10. Menorrhagia
11. Amenorrhoea
12. Utero - vaginal prolapse

APPENDIX E - Drugs

1. Contraceptives
2. Sex hormones
3. Oxytocics
4. Antimicrobials
5. Bromocriptin
6. Clomiphene

OBJECTIVES OF MUSCULOSKELETAL SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Identify long and short bones of upper and lower limbs.
2. Outline the attachments, innervations and action of muscles of upper and lower limbs.
3. Recall of Brachial and Lumbar Plexuses.
4. Recall basic knowledge of embryology of the limbs.

B. ALTERED STRUCTURED AND FUNCTION

1. Describe the mechanism of fracture healing.
2. Define non-union, delayed union, malunion.
3. List the causative factors and complications of the following disease states:

   3.1 Fracture of appendicular skeleton and spine
   3.2 Talepes equino-varus
   3.3 Dislocations of shoulder, elbow, hip and cervical spine
   3.4 Congenital constriction band
   3.5 Arthritis
   3.6 T.B. spine
   3.7 Poliomyelitis
   3.8 Rickets
   3.9 Osteomalacia
   3.10 Rheumatoid arthritis
   3.11 Osteomyelitis (acute and chronic)
   3.12 Ankylosing spondylitis
   3.13 Prolapse intervertebral disc
   3.14 Volkman's ischemic contracture
   3.15 Capsular lesions
   3.16 Benign and malignant tumours of bones
   3.17 Spondylolisthesis
   3.18 Avascular necrosis of bones
   3.19 Quadriplegia, paraplegia

4. Identity gross and microscopic features of bone tumours

C. CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of the muskuloskeletal system and other symptoms secondary or related to that system. (Appendix A)

2. Perform physical examination to elicit signs pertaining to the muskuloskeletal system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations requested to confirm diagnostic possibilities. (Appendix C).

6. Explain rationale and scientific basis of the investigation identified.

7. Perform urine analysis for Bence-Jones Protein.

8. Interpret results of the laboratory investigations in the light of the clinical picture and normal values.

9. Identify types of fractures and dislocations in radiographs

10. Support with evidence the diagnostic choice of a given patient.

11. Outline managment plan comprising of curative, preventive rehabilitative and psycho-social aspects. (See B.3)

12. Describe mechanisms of action, distribution and excretion of drugs prescribed. (Appendix D)

13. Appraise complications that can be expected from such medications.

APPENDIX A

Muskuloskeletal pain
Swelling
Deformity
Muscular cramps
Stiffness
Limp
Inability to bear weight on a limb
Incontinence of bladder and bowel
Tingling and numbness in limbs
Impairment of movements
Loss of use of limb
Paralysis

APPENDIX B

Limb position
Swelling
Vein prominence
Scars
Sinuses
Pigmentation
Puckered skin over body surface
Localised oedema
Blisters
Abnormal shape of joints
Deformity
Muscular fasciculations
Muscle wasting
Localised Cyanosis
Unequal limb length

APPENDIX C

Rose - Waoler test
Serum uric acid
Serum calcium and phosphate
Alkaline phosphatase
Acid phosphatase
Total proteins, A - G ratio
Serum electrophoresis
ASLO titre
Blood culture and sensitivity test
Joint aspirate for culture and sensitivity tests
Radiology:

- Plain X-ray of bones and joints
- Tomogram
- Myelogram

Bone and soft tissue biospy

APPENDIX D

Analgesics
Vit. D
Calcium
Muscle relaxants
Drugs affectining neuromuscular junction
Antibiotics
Anti-inflammatory agents: steroidal and non-steroidal

OBJECTIVE OF HEAD AND NECK BLOCK (INCLUDING EYE)

A. NORMAL STRUCTURE AND FUNCTION

1. Recall from Phase I curriculum:

   (a) physiology of hearing
   (b) physiology of deglutition
   (c) physiology of smell and taste
   (d) physiology of accomodation
   (e) functions of the pupil, optic nerve and retina

2. Describe the anatomy of nose and the paranasal sinuses.

3. Describe the anatomy of pharynx, larynx and trachea.

4. Outline the blood supply, lymphatic drainage and venous drainage of the nose, paranasal sinuses, pharynx, larynx and the ear.

5. Describe the physiology of voice production.

6. Describe the physiology fo equillibrium.

7. Describe the anatomy of external, middle and internal ear.

8. Describe the general topography of neck.

9. Describe the anatomy of anterior and posterior triangles of the neck.

10. Describe the anatomy of the orbit and eye ball.

11. Describe the physiology of lacrimation and aqueous humor.

B. ALTERED STRUCTURE AND FUNCTION

1. List causative factors structural changes and sequele of the following:

   (a) Inflammatory diseases of:

Ears	-	Otitis externa Otitis media (Acute and Chronic) Labrynthitis
Nose	-	Acute and chronic non-specific Rhino-sinusitis Chronic specific rhinitis (syphillis, T.B., Rhinosporidiasis)

Throat - Acute and chronic pharyngitis and tonsillitis
Peritonsilar abscess
Acute and chronic laryngitis

Neck - Acute and chronic sialadenitis
Acute and chronic lymph adenitis and abscess and Tuberculous cold abscess
Actinomyosis
Parapharyngeal abscess

(b) Neoplastic diseases of:-

Ears - Squamous cell carcinoma
Adenocarcinoma
Glomus tumour
Accoustic neuroma

Nose and sinuses - Papilloma
Angiofibroma - angioma
Squamous cell carcinoma

Throat - Nasopharyngeal carcinoma
Squamous cell arcinoma of pharynx and larynx
Papilloma of larynx

Neck - Salivary gland tumours
Carotid body tumour
Thyroid adenoma
Lymph node: metastatic carcinoma
Lymphoma
Injuries of the neck
(sharp and blunt injuries)

(c) Common abnormalities of the eye

Conjunctivities

stye
squint
cataract
orbital proptosis

(d) Miscellaneous conditions

Allergic rhinitis (2nd week)
Angioneurotic oedema of larynx (3rd week)
Foreign bodies in E.N.T. (1st and 3rd weeks)
Congenital deafness
Pre-auricular sinus
Choanal atresis (2nd week)
Laryngomalacia
Pharyngeal pouch (3rd week)
Thyroglossal cyst
Branchial cyst and fistula (4th and 5th weeks)
Ectopic thyroid tissue

C. CLINICAL APPLICATION

1. Obtain history to unravel symptoms of ear, nose, throat and neck.

2. Perform physical examination:-

(a) The general examination and systemic examination. (in brief)

(b) Examination of ear, nose, throat and neck.

(c) Use of otoscopic.

3. Discuss differential diagnosis in the clinics.

4. Discuss common investigations, their rationale and interpretations.

5 Outline the principle of management.

Drug therapy including cytotoxic drugs etc.
Surgery
Radiotherapy
Prevention, if any

6. Describe the rationale, action, distribution, excretion and complications of the therapeutic agents used in ENT.

7. Obtain history to unravel common conditions of the eye and be familiar with common signs.

7.1. Redness of the eyes
7.2. Pain in the eyes
7.3. Swelling of the eyes
7.4. Loss of vision

8. Performs opthalmoscopy.

APPENDIX A

1. Pain
2. Swelling
3. Deafness
4. Vertigo
5. Otorrhea
6. Nasal Block
7. Anosmia
8. Epistaxis
9. Nasal discharge
10. Foreign bodies in ENT
11. Dyshagia
12. Hoarseness of voice
13. Difficulty in breathing
14. Defect in the speech and voice production
15. Tinnitus

APPENDIX B

1. Swelling, deformity, shape
2. Tenderness
3. Ottorrhoea, wax
4. Epistaxis
5. Nasal discharge
6. Smell
7. Foreign bodies in the ear, nose and throat
8. Throat congestion
9. Patch in the throat
10. Steroids
11. Hoarseness of voice
12. Speech defect
13. Voice defect
14. Abnormal movement of tongue and palate
15. Testing deafness with tuning forks

APPENDIX C

Swabs from ear, nose and throat for:

(a) Culture of microorganism and their sensitivity to antibioties.
(b) Stain for micro-organisms : Gram stain
: Zeihl-Neelson stain

Serological investigations

(a) VDRL etc.
(b) Virus antibody

Histopathological examination of diseased tissue

Radiology of:

(a) Mastoids
(b) Nose and paranasal sinuses
(c) Soft tissue of neck
(d) Barium swallow

APPENDIX D

Analagesics
Anti-pyretics
Anti-microbial agents
Antibiotic and antifungal ear drops
Nasal decongestants
Corticosteroids

APPENDIX E

Local anaesthetics
Diagnostic agent - Fluorescein
Mydriatics + cyctoplegics
Miotics
Osmotic agents (glycerol, mannitol, urea)
Diamox
Eye lotion (saline, sodium bicarbonate)
Corticosteroids

OBJECTIVES OF PSYCHIATRY BLOCK

A. NORMAL FUNCTIONS OF THE MIND

(Students are requested to review the learning experiences under Behavioural Science Block of Phase I).

1. Define mental health.

2. Describe the different levels of consciousness and the structure of personality (i.e., ego, superego).

3. Describe psychososial development of an individual (congitive, emotional, psychosexual and social) and the role of family with special reference to the

4. Relate the various models to health and illness behavior (viz. organic, psychological, and socio-cultural)

5. Describe the concept of normality of human behavior.

B. ALTERED FUNCTION OF THE MIND

1. Differentiate normal and abnormal behaviours.

2. List significant landmarks in the evolution of the concept of mental illness.

3. Describe the current classification of mental illness, and state its limitations.

4. Outline the etiological factors in the causation of mental illnesses.

5. Explain the influence of culture on the normal behavior and on distribution diagnosis, clinical presentation and management of mental illness.

6. Define alcohol and drug dependence.

7. Describe the clinical features, prevalence, aetiology and prognosis of the following:-

   7.1. Affective illness
   7.2. Neurosis
   7.3. Schizophrenias
   7.4. Personality disorders
   7.5. Organic psychosis
   7.6. Psychosomatic disorders
   7.8. Alcohol and drug dependence
   7.9. Mental retardation
   7.10. Cultural determined syndromes

C. CLINICAL APPLICATION

1. Outline the main component of

   1.1. Psychiatric history
   1.2. Mental status examination

2. Interpret the significance of information obtained while observing psychiatric history taking and mental state assessment by a competent interviewer. (Appendix A)

3. Interview a patient with psychological or psychiatric problems.

4. Demonstrate appropriate attitude:

   4.1. Listen attentively and remain non-judgemental
   4.2. Discuss the role of physical, psychological and social factors influencing every patient seen, regardless of illness.

5. Perform physical examination to exclude any organic diseases.

6. Give example of each group of drugs as given in appendix B.

7. Outline main indications for drug usage.

8. Identify the indication for the use of psychological treatment.

9. Identify some of the ethical issues involved in dealing with psychiatric patients.

10. Outline the organizaion of the mental health service in Malaysia.

11. State the role of primary care team in the recognition and management of mental illness.

APPENDIX A

1. Behaviour

Acting out, agitation
Amok
Automatism
Automatic obedience, ecopraxia, waxy flexibility
Echolalia
Catastrophic reaction
Catatonic state, negativism stereotypy
Compulsion
Delinquency
Fugue
Gaze avoidance
Hyperkinesis
Mannerism
Rituals
Stupor
Suicidal behaviour
Trance

2. Speech

Mutism
Stuttering
Irrelevence
Incoherence
Neologism
Pressure of speech
Logorrhea

3. Mood/Emotion

Ambivalence
Anxiety, panic, fear, phobia
Apathy
Depression
Blunting of emotion
Depersonalisation
Euphoria, elation, hypomania, mania
Grief
Incongruity of affect
Emotional lability
La belle indifference

4. Thought

Disturbances of flow of thought
Disturbances of form of thought
Disturbances of content of thought

5. Perception

Hallucination
Illusion
Deja vu
Formication
Hallucinosis
Pseudohallucination

6. Attention, Concentration

Distractibility

7. Orientation

Confusion, disorientation
Clounding of conciousness
Delirium
Twilight state

8. Memory

Amnesia
Retrospective falsification
Confabulation

9. Intelligence

Dementia

10. Poor Judgement

11. Insight

12. Symptoms

Impotence
Frigidity
Enuresis
Malingering

APPENDIX B

Drug therapy:

Antianxiety
Anti depressive
Anti psychotic

OBJECTIVES OF COMMUNICABLE DISEASE BLOCK

A. NORMAL STRUCTURE AND FUNCTION.

1. Recall normal structure and function of different organ systems of human body including their blood supply, lymphatic drainage and innervation. (PHASE I)

2. Recall effects of environmental factors of the host and reactions of host to the same factors. (PHASE I)

3. Recall tissue changes in acute and chronic inflammation.

B. ALTERED STRUCTURE AND FUNCTION.

1. Describe the causes, gross and microscopic changes and altered function seen in the following diseases.

   1.1. Malaria
   1.2. Filariasis
   1.3. Amoebiasis
   1.4. Intestinal nematodal infections
   1.5. Enteric fever
   1.6. Haemorrhagic fever with particular reference to dengue fever
   1.7. Zoonotic diseases with particular reference to:

      1.7.1. Rickettsial diseases
      1.7.2. Plaque
      1.7.3. Leptospirosis
      1.7.4. Rabies
      1.7.5. Rat bite fevers

   1.8. Common acute and chronic infections of the skin (bacterial, viral, parasitic and fungal) particularly with reference to:

      1.8.1. Leprosy
      1.8.2. Dermatomycoses
      1.8.3. Exanthematous diseases
      1.8.4. Scabies and pediculosis

   1.9. Infectious diarrhoeal and gastro-enteritic diseases with particular reference to:

      1.9.1. Infantile gastro-enteritis
      1.9.2. Cholera
      1.9.3. Dysentery
      1.9.4. Food poisoning

2. List and classify the micro-organisms which cause the above diseases.

3. Descsribe their morphological and biological characteristics including their life cycle.

4. Descsribe the pattern of distribution, morbidity and mortality with particular reference to Malaysia.

5. Describe the clinical features of the above conditions.

6. List the complications likely to develop in the above diseases.

7. List and identify the vectors which transmit some common communicable diseases and outline their geographical distribution in Malaysia.

C. CLINICAL APPLICATION.

1. Obtain history to unravel the symptoms of communicable diseases. (Appendix A)

2. Perform physical examination to elicit signs pertaining to communicable diseases. (Appendix B)

3. Relate the altered structure and function to the presenting symptoms and signs.

4. Generate the diagnostic possibilities based on symptoms, signs and epidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities. (Appendix C)

6. Explain the rationale and the scientific basis of the investigations identified.

7. Outline the principles of collection and transport of specimens to the laboratory.

8. Interprete the results of the laboratory investigations in the light of clinical features and normal values of serum electrolytes and blood gases.

9. Perform laboratory tests with particular reference to:

   9.1. Preparation of thin and thick blood smears, staining and identification of parasites.

   9.2. Examination of blood for detection of microfilaria.

   9.3. Preparation of faeces to identify the intestinal parasites.

   9.4. Performing Gram stain and describing the morphological characteristics of bacteria.

10. Outline the management of the patients with the above communicable diseases comprising of curative, preventive, rehabilitative and psycho-social aspects.

11. List the notifiable communicable diseases and outline the preventive and control measures on community scale of these diseases in Malaysia.

12. List the drugs used in treatment of the above communicable diseases and describe their mechanism of action, pharmacokinetic mechanism in the body, excretion and the adverse reactions. (Appendix D)

APPENDIX A

Fever with its phasic variation
Chills
Malaise
Body ache
Arthralgia
Sweating
Neurasthenia
Headache
Skin rash
Localised lesion with itching, pain and swelling
Apathy
Bleeding from orifices
Rhinitis
Sore throat
Lacrimation
Photophobia
Paresis
Paraesthesia
Fits
Anorexia
Vomiting, nausea
Abdominal pain and colics
Diarrhoea
Dysentery
Pruritus
Skin discolouration
Altered skins sensation
Loss of hair
Scaling

APPENDIX B

Lymphadenopathy
Elevated temperature
Skin Lesions: petechiae, purpura, erythema, macule
papule, pustule, vesicle and eschar
Muscle tenderness
Altered sensorium
Dehydration
Bubo
Neck stiffness, Kerning's sign
Conjunctivitis
Shock
Hepatomegaly
Splenomegaly
Edema (non-pitting form in filariasis)

APPENDIX C

Serology
Viral isolation
Tissue biopsy
Specimen for culture and sensitivity
Carrier screening
Stool and blood smears
Skin scraping
Skin biopsy
Heamogram
Serum electrolytes and blood gases

APPENDIX D

Anti-malarials agents
Anti-bacterial agents
Anti-amoebic drugs
Anti-helmenthics
Anti-rabies vaccine
Anti-filarial drugs
Anti-fungal agents
Anti-viral agents
Anti-diarrhoeals
Chemophrophylaxis

OBJCETIVES OF CARDIOVASCULAR SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Outline the development of the heart and vascular system.
2. Describe the features of foetal circulation and changes that take place after birth.
3. Describe the features and regulation of coronary and pulmonary circulation.
4. Relate electrophysiological activity to the transmission of cardiac impulse.
5. Describe the control of vasomotor tone, blood pressure, cardiac output and heart rate.
6. Describe the cardiovascular and metabolic changes in exercise.

B. ALTERED STRUCTURE AND FUNCTION

1. Outline development of the following congenital heart disease:

    1.1. Persistent ductus arteriosus
    1.2. Atrial septal defect
    1.3. Ventricular septal defect
    1.4. Coarctation of aorta
    1.5. Fallot's tetralogy

2. List the causative factors and complications of the following diseases:

    2.1. Ischaemic heart disease
    2.2. Infective endocarditis & myocarditis
    2.3. Hypertension
    2.4. Rheumatic heart disease
    2.5. Atherosclerosis
    2.6. Peripheral vascular diseases
    2.7. Aneurysm of the blood vessels
    2.8. Valvular heart diseases
    2.9. Lymphoedema

3. Identify gross and microscopic features of disease listed above. (Objective 2)

4. Describe the functional changes that occur in the following conditions:

   4.1. Cardiac arrhythmias
   4.2. Congestive heart failure
   4.3. Valvular damage
   4.4. Congenital Heart Disease

C. CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of the cardiovascular system and other symptoms secondary or related to that system. (Appendix A).

2. Perform physical examination to elicit signs pertaining to the cardiovascular system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations requested to confirm diagnostic possibilities. (Appendix C).

6. Explain rationale and scientific basis of the investigation identified.

7. Interpret results of the laboratory investigations in the light of the clinical picture and normal values.

8. Support with evidence the diagnostic choice of a given patient.

9. Outline a management plan comprising of curative, preventive, rehabilitative and psycho-social aspects. (Appendix D).

10. Describe mechanism of action, distribution and excretion of drugs prescribed. (Appendix E).

11. Appraise complications that can be expected from such medications.

APPENDIX A

Dyspnoea
Orthopnoea
Paroxysmal nocturnal dyspnoea
Palpitation
Chest pain (precordial)
Cyanosis
Edema of dependent parts
Syncope
Claudication
Haemoptysis
Repeated chest infections
Retarded growth
Arthralgia

APPENDIX B

Arterial pulse abnormalities
Peripheral pulses
Blood pressure variations
Elevated jugular venous pressure
Cyanosis
Pitting oedema
Clubbing
Apex beat positions and characteristics
Precordial pulsation, heave
Thoracic deformity
Abnormalities in heart sounds, murmurs
Peripheral venous flow
Peripheral ischaemia
Hepatosplenomegaly
Abdominal bruit

APPENDIX C

Blood gas analysis
Cardiac enzymes
Serum electrolytes
Serum cholesterol and triglycerides
Blood sugar
Blood culture and sensitivity
Serology.
    Antistreptolysin 'o' titre
Electrocardiography
Radiology.
    Coronary arteriography
    Peripheral arteriography
    Venography
    Barium swallow
Echocardiography
Cardiac catheterization
Exercise stress test

APPENDIX D

Congenital heart disease
Hypertension
Ishaemic heart disease
Cardiac arrhythmias
Rheumatic heart disease
Infective endocarditis
Valvular heart diseases
Congestive cardiac failure

APPENDIX E

Vasodilators and antianginal agents
Sympathomimetics and parasympathomimetics
Antihypertensives
Cardiac glycosides
Antiarrhythmic drugs
Lipid Lowering Drugs

OBJECTIVES OF RESPIRATORY SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Describe the development of the tracheo-bronchial tree and lungs.

2. Describe the respiratory changes in utero and at birth.

3. Relate pulmonary circulatory pressure to vascular system and flow distribution.

4. Explain the mechanism of the respiratory protective reflexes.

B. ALTERED STRUCTURE AND FUNCTION

1. Outline the following developmental abnormalities of the respiratory system.

   (a) congenital diaphragmatic hernia
   (b) lung cysts
   (c) lobar emphysema

2. Describe the structural and functional changes that occur in the following states.

   (a) pneumo-, hydro-, haemo-, pyo- thorax
   (b) pleurisy, pleural effusions
   (c) consolidation
   (d) cavitation
   (e) atelectasis
   (f) bronchiectasis
   (g) empyema thoracis, abscess
   (h) emphysema
   (i) pulmonary fibrosis
   (j) pulmonary oedema
   (k) pulmonary hypertension
   (l) pulmonary thrombo-embolism
   (m) pulmonary eosinophilia

3. List the causes of the above states listed in the objectives.

4. Describe the functional derangements in the following conditions.

   (a) obstructive/restrictive lung diseases
   (b) cor pulmonale
   (c) respiratory acidosis and alkalosis
   (d) respiratory and ventilatory failure
   (e) drowning

5. List the causes and complications of the following diseases:

   (a) pulmonary tuberculosis
   (b) bronchogenic carcinoma
   (c) pneumonia
   (d) bronchiolitis
   (e) bronchial asthma
   (f) chronic bronchitis
   (g) chest trauma
   (h) secondary tumours

6. Identify occupational factors that contribute to pneumoconeosis.

CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of the respiratory system and other symptoms secondary or related to that system. (Appendix A)

2. Perform physical examination to elicit signs pertaining to the respiratory disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilites based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities.

6. Explain rationale and scientific basis of the investigations identified.

7. Perform the following laboratory tests.

   (a) sputum direct microscopy
   (b) sputum for smear and staining
       Gram stain
       AFB/Zeihl-Nelson stain

8. Interpret the results of laboratory investigations in the light of the clinical picture and normal values.

9. Support with evidence the diagnostic choice in a given patient.

10. Outline a management plan comprising of curative, preventive rehabilitative and psycho-social aspects. (Appendix C)

11. Describe mechanism of action, distribution and excretion of drugs prescribed. (Appendix D)

12. Appraise complications that can be expected from such medications.

APPENDIX A

1. Cough
2. Dyspnoea
3. Orthopnoea
4. Paroxysmal nocturnal dyspnoea
5. Nature of sputum
6. Haemoptysis
7. Chest pain
8. Wheeze
9. Stridor
10. Hoarseness
11. Cyanosis

APPENDIX B

1. Position and attitude of patient
2. Thoracic and spine deformities
3. Jugular venous distension
4. Supraclavicular and axillary lymphadenopathy
5. Cyanosis
6. Clubbing
7. Hypertrophic pulmonary osteoarthropathy
8. Flapping hypercapnoeic tremor
9. Characteristic facies of 'blue bloaters' and 'pink puffers'
10. Altered mentation
11. Respiratory patterns and movements
12. Deviation of trachea, apex beat
13. Tactile, vocal fremitus
14. Hyper and hypo-resonance
15. Coin test
16. Breath sounds
17. Adventitious sounds
18. Audible voice sounds
19. Pleural rub

APPENDIX C

1. Pulmonary tuberculosis
2. Common infections of lungs
3. Bronchogenic carcinoma and secondary tumours
4. Chest trauma
5. Accidental poisoning (respiratory depresants)
6. Drowning
7. Asthma
8. Chronic bronchitis

APPENDIX D

1. Antitussives
2. Liquefaction agents
3. Bronchodilators
4. Expectorants
5. Corticosteroids
6. Antihistamines
7. Vagolytics
8. Respiratory stimulants
9. Respiratory depressants
10. Oxygen therapy
11. Antimicrobials
12. Mechanical artificial ventilation
13. Chest physiotherapy
14. Humidification
15. Nebulized medication

OBJECTIVES OF THE GENITOURINARY

A. NORMAL STRUCTURE AND FUNCTION

1. Describe the development of the male and female genitourinary tract and the kidneys.

2. Describe the descent of the testes.

3. Recall the anatomy of kidney, ureter, bladder, prostate, seminal vesicles and urethra. Describe the blood supply, lymphatic drainage and innervation of these organs.

4. Name the structures forming and the contents of the scrotal sac.

5. Recall the regulatory functions of the kidney and the physiological assessment of renal functions.

6. Describe the anatomy of abdominal wall, inguinal canal, and femoral triangle.

B. ALTERED STRUCTURE AND FUNCTION

1. Describe the causes, pathophysiology and gross and microscopic changes seen in acute and chronic renal failure and the systemic complication. Explain the abnormalities seen in acid base balance fluid and electrolytes changes in ARF and CRF.

2. Name the various types of glomerulonephritis and describe the mechanism and gross and microscopic picture in:

   2.1. Acute post streptococcal glomerulonephritis
   2.2. Rapidly progressive glomerulonephritis
   2.3. Membranous glomerulonephritis
   2.4 Chronic glomerulonephritis
   2.5 Minimal change glomerulonephritis

3. Name the causes of nephrotic syndrome and explain its manifestations.

4. Describe the role of immune complexes in renal diseases.

5. Name the common congenital anomalies of the genitourinary system and explain their underlying causes.

6. List the common causes of urinary tract infections and describe the effects of infection and alterations seen in the structure and function of the urinary tract.

7. Name the causes and effects of urinary calcular diseases.

8. Describe the mechanism of neurogenic bladder.

9. Name the common injuries to the urinary tract.

10. Describe the gross and microscropical appearance, spread and effects of tumours of male genitourinary system.

11. Name the common sexually transmitted diseases and describe their mode of infection and complications. (to include AIDS)

12. Name the common disorders of penis, prostate and seminal vesicles.

13. Describe the causes and structural alterations in in common disorders of the scrotum and its contents.

C. CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of a disorder of the genitourinary system and other symptoms secondary or related to that system. (Appendix A)

2 Perform physical examination to elicit signs pertaining to the genitourinary system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and functions.

4. Generate diagnostic possibilities based on signs and symptoms as well as epidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities C. (Appendix C)

6. Explain the rationale and scientific basis of the investigations identified.

7. Interpret the result of laboratory investigations in the light of the clinical picture and normal values.

8. Support with evidence, the diagnostic choice in a given patient.

9. Outline a management plan comprising of curative, preventive, rehabilitative and psychosocial aspects. (Appendix D)

10. Describe the mechanism of action, distribution and excretion of drugs perscribed. (Appendix E)

11. Appraise complications that can be expected from such medications.

APPENDIX A

Symptoms

1. Abdominal pain:

    1.1. Ureteric colic
    1.2. Loin pain
    1.3. Hypogastric pain

2. Oedema
3. Polyuria
4. Oliguria
5. Haematuria
6. Anuria
7. Pyuria
8. Cloudy urine
9. Painful micturition (dysuria)
10. Difficulty in micturition
11. Frequency
12. Urethral discharge
13. Penile swellings and ulcers
14. Scrotal swelling
15. Incontinence of urine
16. Retention of urine
17. Urinary fistula
18. Fever with chills

APPENDIX B

Signs

1. Anaemia
2. Oedema
3. Acidotic breathing
4. Hypertension
5. Abdominal lump
6. Tenderness in the renal angle
7. Hypogastric tenderness
8. Tenderness in epidydimis and testes
9. Varicocele
10. Enlarged prostate
11. Scrotal lump
12. Penile swelling
13. Urinary fistula
14. Penile ulcer
15. Empty scrotum

APPENDIX C

Investigations

1. Urine examinations

    1.1. Physical
    1.2. Chemical
    1.3. Microscopical

2. Biochemical investigations

    2.1. Serum electrlytes
    2.2. Blood urea nitrogen
    2.3. Serum creatinine
    2.4. Blood gas analysis
    2.5. Creatinine clearance

3. Microbiological investigations

    3.1. Smear
    3.2. Culture and sensitivity of urinary, urethral and prostatic discharge

4. Serology

    4.1. Sexual transmitted diseases

5. Radiology

    5.1. Excretory urogrophy
    5.2. Retrograde urography
    5.3. Renal angiography
    5.4. Cystourethrography

6. Immunological

    6.1. Autoantibodies
    6.2. Serum complement

7. Biopsy

APPENDIX D

Management

1. Prevention of

    1.1. Sexually transmitted diseases
    1.2. Urinary tract infection
    1.3. Drug induced nephropathy
    1.4. Renal calculi

2. Curative

   2.1. Fluid and electrolyte balance
   2.2. Dialysis
   2.3. Radiotherapy
   2.4. Renal transplant

3. Psychosocial aspects

   3.1. Sexually transmitted disease
   3.2. Chronic renal failure
   3.3. Enuresis

APPENDIX E

Drugs

1. Diuretics
2. Antispasmodics
3. Antibiotics
4. Chemotherapeutics
5. Steroids
6. Immunosuppressives

OBJECTIVES OF GASTRO-INTESTINAL SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Outline development of the gastrointestinal tract.

2. Identify peritoneal reflections, sub-phrenic space and intraperitoneal spaces in a real or simulated cadaver.

3. Explain clinical significance of porto-systemic anastomosis.

4. Describe the structures and formation of the anterior abdominal wall.

5. Describe the formation of the abdominal diaphragms.

6. Review the anatomical structure, blood supply, nerve supply, lymphatic drainage and major functions of the various organs of the gastro intestinal system (Phase I objective).

7. Describe the defence mechanism of the GIT in health and diseases.

B. ALTERED STRUCTURE AND FUNCTION

1. List the aetiology, structural and functional changes associated with the following conditions:-

   1.1. Oesophageal obstruction and malignancies
   1.2. Peptic ulceration
   1.3. Peritonitis
   1.4. Intestinal obstruction
   1.5. Abdominal hernias
   1.6. Malabsorption syndrome
   1.7. Inflammatory bowel disease
   1.8. Chronic liver diseases including liver cirrhosis and hepatocellular carcinoma
   1.9. Benign and malignant tumours of stomach, colon rectum and anal canal
   1.10. Infections (Ref. communicable disease block)
   1.11. Haemorrhoids, fistula, fissure-in-ano
   1.12. Cholecystitis, cholelithiasis and carcinoma of the gall bladder
   1.13. Hepatitis - viral and others
   1.14. Pancreatitis and chronic pancreatic disease including tumours
   1.15. Hepatomegaly
   1.16. Appendicitis

2. Describe embryology of the following anomalies:-

   2.1. Trachea oesophageal fistula
   2.2. Pyloric hypertrophy
   2.3. Intestinal malrotation
   2.4. Imperforate anus

C. CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of the gastrointestinal system and other symptoms secondary or related to that system. (Appendix A)

2. Perform physical examination to elicit signs pertaining to the gastrointestinal system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs symptoms and epidemiological data.

5. Perform laboratory tests for the following:-

   5.1. Urine for bile and urobilinogen
   5.2. Stool for blood
   5.3. Stool for parasites

6. Identify laboratory investigations required to confirm the diagnostic possibilities. (Appendix C)

7. Explain the rationale and scientif basis of the investigations identified.

8. Interpret results of the laboratory investigations in the light of the clinical picture and normal values.

9. Support with evidence the diagnostic choice in a given patient.

10. Outline a management plan comprising of curative preventive rehabilitative and psycho-social aspects. (Appendix D).

11. Describe mechanism of action, absorption, distribution and excretion of drugs prescribed. (Appendix E)

12. Appraise complications that can be expected from such medications.

APPENDIX A

Nausea
Vomiting
Flatulence
Hiccups
Dysphagia
Oesophagonia
Heart burn
Regurgitation
Eructation (belching)
Abd. pain and colics
Abd. distension
Abd. mass
Constipation
Weight loss
Anorexia
Diarrhoea
Dysentery
Steatorrhoea
Tenesmus
Constipation
Jaundice
Haematemesis
Malaena
Bleeding per rectum
Painful defaecation
Fecal incontinence
Pruritis ani
Referred pain

APPENDIX B

Patient's adopted position
Jaundice
Dehydration
Cachexia
Nutritional deficiencies
Sign of hepatic failure
Acute abdomen
Increased peristalsis
Lumps
Hernia
Ascites
Tenderness/rebound tenderness
Fluid thrill
Shifting dullness
Succussion splash
Umbilical position & appearance
Silent abdomen
Tinkling of ileus
Caput medusae & superficial veins
Hepatomegaly
Splenomegaly
Lumps around anal region
Abdominal pulsation

APPENDIX C

Urine for bile
Urobilinogen
Stool for blood
Stool for parasites
Fecal fat
Stool for sterocobilinogen
Stool for culture and sensitivity
Liver functions test
Gastric secretion aspirate
Pentagastrin test
Pancreatic function tests
Serum electrolytes
Blood urea nitrogen
Blood ammonia
Endoscopy

Radiology:
- Plain
- Ba meal, swallow, anema
- Sialography
- Angiography
- Choleyslography

Ultrasound
C T scan
Laparotomy

Serology:
- Hepatitis
- Cirrhosis
- Liver cancer
- Colonic cancer

APPENDIX D

Hepatitis A & B

Common infections of bacterial, viral, fungal and parasitic origin (Communicable Disease)

Peptic ulcer
Colostomy
Gastrectomy
Alcoholism & Cirrhosis

APPENDIX E

Antacids
Antidiarrhoeals
Antispasmodic
Purgatives
Antibiotics
Antiprotozoa (Communicable Diseases)
Anthelminthics (Communicable Diseases)
Parenteral nutrition

OBJECTIVES OF THE ENDOCRINE SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. Outline development of the following endocrine glands:

   1.1. Pituitary
   1.2. Adrenal
   1.3. Thyroid
   1.4. Parathyroid
   1.5. Pancreas

2. Describe histological features of each type of glands listed above.

B. ALTERED STRUCTURE AND FUNCTION

1. Describe structural and functional changes in the body brought about by hypo- or hyperfunctions of each gland.

2. Describe the various behavioural changes which may occur in endocrine dysfunctions.

3. List the causes, compliacations and sequelae of the following endocrine disorders:

   3.1. Gigantism
   3.2. Acromegaly
   3.3. Dwarfism
   3.4. Pituitary insufficiency
   3.5. Thyrotoxicosis
   3.6. Hypothyroidism
   3.7. Goitre
   3.8. Hypo and hyperparathyroidism
   3.9. Cushing syndrome
   3.10 Addison's disease
   3.11 Aldosteronism
   3.12 Adrenogenital syndromes
   3.13 Pheochromocytoma
   3.14 Diabetes mellitus
   3.15 Benign & malignant tumours of endocrine glands
   3.16 Hermaphroditism
   3.17 Precocious puberty

C. CLINICAL APPLICATION

1. Obtain history to unravel symptoms of the endocrine and other symptoms secondary or related to that system. (Appendix A).

2. Perform physical examination to elicit signs related to the endocrine system. (Appendix B).

3. Relate the presenting signs and symptons to altered structure and function.

4. Generate diagnostic possibilities based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations required to confirm diagnostic possibilities. (Appendix C).

6. Explain the rationale and scientific basis of the investigations identified.

7. Perform the following laboratory investigations on urine:

   7.1. Tests for sugar, ketone bodies, protein
   7.2. Specific gravity
   7.3. Microscopy

8. Interpret results of laboratory investigations in the light of clinical picture and normal values.

9. Identify typical radiological abnormalities in the following conditions

   9.1. Acromegaly
   9.2. Hypothyrodism
   9.3. Hyperparathyroidism
   9.4. Osteoporosis

10. Support with evidence the diagnostic choice in a given patient.

11. Outline a management plan comprising of curative, preventive and psychosocial aspect.

12. Describe mechanism of actions, distributions and excretions of drugs prescribed. (Appendix D)

13. Appraise complications that can be expected from such medications.

APPENDIX A

Weight loss & gain
Hyperpigmentation
Descreased pigmentation
Hirsutism
Tremors
Gbld/Heat intolerance
Swelling in the neck
Polyphagia
Polydypsia
Polyurea
Palpitation
Impotence
Changes in libido
Menstrual disorders
Galactorrhoea
Infertility
Virilization
Precocious puberty
Gynecomastia
Growth abnormality
Bone pain
Muscle weakness
Visual defects
Cornvulsions changes
Altered consciousness
Changes in appearance

APPENDIX B

Growth retardation
Large tongue
Protrunding tongue
Tremors of outstretched hands
Tremors of tongue
Palpable thyroid gland
Facial appearance
Changes in pulse
Changes in blood pressure
Weight loss/gain
Supraclavicular pad of fat
Buffalo hump
Truncal fat distribution
Non pitting oedema
Voice change
Hyperreflexia
Slow relaxation phase of deep tendon reflex
Neuropathy
Carpaltunnel syndrome
Tetany
Mental retardation

Mood changes
Gynaecomastia
Sexual infantilism
Ambiguous genitalia
Changes in second sex characteristiocs
Precocious puberty

Abdominal striae
Exophthalmos
Lid lag
Lid retraction
Ophthalmoplegia
Periorbital oedema
Visual field defects
Lenticular opacity
Acne
Hirsutism
Loss of eyebrow
Pretibial myxoedema
Hyper-or hypopigmentation
Dry skin
Coarse skin
Thick heel pad
Moist skin

Sweating
Prognathism (prominent mandible)
Large hands/feet
Disproportion between trunk and extremities.

APPENDIX C

1. Urine for sugar, ketone bodies, protein, specific gravity and microscopy.

2. Urinary excretion of hormones and metabolites.

3. Biochemical tests
   Serum osmolality
   Serum calcium
   Serum phosphate
   Serun potassium, sodium
   Blood glucose - fasting, random, postprandial
   Glucose tolerance test
   Serum alkaline phosphatase
   Plasma renin activity (by radioimmunoassay)
   Hormone assay
   Stimulation test
   Suppression test

4. Serology for autoantibodies

5. Radiology - skeletal survey
   skull

APPENDIX D

Hormone replacement therapy
Antithyroids
Antidiabetics
Steroids
Catecholamines

02478

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OBJECTIVES OF NERVOUS SYSTEM

A. NORMAL STRUCTURE AND FUNCTION

1. List the functions of frontal, temporal parietal and occipital lobes.

2. Describe the course and termination of the cranial nerves.

3. Name the neuroanatomical substrates of the higher mental functions.

4. Describe the structure and function of the limbic system.

5. List the main branches of the following arteries

   5.1. Internal carotid artery
   5.2. Vertebro-basilar artery
   5.3. Spinal artery

6. Identify the areas of the brain and spinal cord supplied by the above arteries.

7. Describe the venous drainage of the brain and spinal cord.

8. Describe the structure and function of reticular formation.

9. Relate neurotransmitters to their role in nervous system functions.

10. Describe the formation and course of brachial and lumbar plexues.

11. List the main nerves that arise from them and the structures innervated by each of the nerves.

12. Describe axoplasmic flow.

13. Describe the sensory innvervation of the skin in terms of dermatomes.

B. ALTERED STRUCTURE AND FUNCTION

1. Describe the structural and functional changes that occur in the following conditions.

   1.1. Migraine
   1.2. Hydrocephalus
   1.3. Injury to skull and spine
   1.4 Meningitis and encephalitis
   1.5 Brain abscess
   1.6 Tumours of brain and spinal cord
   1.7 Stroke

1.8 Subarachnoid hemorrhage
1.9 Demyelinating disorders
1.10 Degenerative disorders of the CNS
1.11 Toxic metabolic disorders
1.12 Peripheral neuropathies
1.13 Myasthenia Gravis
1.14 Muscular dystrophies and myopathies
1.15 Motor neurone disease
1.16 Epilepsy
1.17 Cerebral palsy

2. Explain the causes of the above conditions.

C. CLINICAL APPLICATION

1. Obtain history to unravel the symptoms suggestive of nervous system and other symptoms secondary or related to that system. (Appendix A)

2. Perform physical examination to elicit signs pertaining to the nervous system disorders. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and function.

4. Generate diagnostic possibilities based on signs, symptoms and epidemiological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities. (Appendix C)

6. Explain the rationale and scientific basis of the investigations identified.

7. Interpret the results of laboratory investigations in the light of the clinical picture and normal values.

8. Support with evidence the diagnostic choice in a given patient.

9. Outline a management plan comprising of curative, preventive, rehabilitative and psycho-social aspects. (Appendix D)

10. Describe mechanism of action, distribution and excretion of drugs prescribed. (Appendix E)

11. Appraise complications that can be expected from such medications.

APPENDIX A

Headache
Loss of consciousness
Loss of memory
Difficulty in speech
Diminishing acuity of vision
Double vision
Squint, drooping eyelids
Facial pain
Facial asymmetry
Deafness
Giddiness
Difficulty in swallowing
Nasal regurgitation
Fits
Weakness and wasting of extremities
Involuntary movements
Difficulty in walking (Ataxia)
Sensory distrubances in extremities
Urgency and hesitancy of micturition, defaecation

APPENDIX B

Level of consciousness

Speech functions
- Comprehension
- Expression
- Reading
- Writing
- Naming
- Repetition
- Spontaneous speech

Memory functions
- Remote
- Recent
- Immediate

Orientation (time, place, person)
Intelligence
Judgement
Attention, concentration
Abstraction
Affect
Insight
Sense of smell
Visual acuity, field
Colour vision
Retinal changes
Eye movements, nystagmus
Pupillary reaction, characteristics
Ptosis

Strabismus
Facial sensation
Muscles of mastication corneal reflex
Jaw jerk
Facial muscles
Taste
Lacrimation
Rénne and Weber tests
Dysphonia
Nasal twang
Staccato speech
Gag reflex
Pharyngeal reflex
Sternomastoids and trapezii power

Tongue
- movements
- atrophy
- fasciculation

Wasting and hypertrophy of muscles
Fasciculation
Tone, power
Involuntary movements
Coordination
Gait

Superficial sensations
- Temp, touch, pain

Dep sensation
- joint and position sense
- vibration

Cortical sensations
- tactile localization
- 2-point descrimination
- stereognosis

Superficial reflexes
- conjunctival
- corneal
- abdominal
- plantar

Deep reflexes (eg. ankel jerk, knee jerk, etc)
Intention tremor
Dysdiadokokinesis
Ataxia
Pendular knee jerk
Rebound phenomenon
Micro and macrocephaly
Short neck
Spine movements
Kyphoscoliosis

Gibbus
Ant. fontanelle and sutures
Thickened peripheral nerves
Neck stiffness
Kerning's sign

APPENDIX C

Lumbar puncture

CSF examination
- Pressure
- Appearance
- Cytology
- Glucose
- Protein
- Globulin
- Chloride
- VDRL
- Culture

Radiology
- Plain X-ray skull
- Carotid angiography
- Ventriculography
- Myelography
- CT scanning

Electroencephalogram (EEG)
Electromyogram (EMG)

APPENDIX D

Pyogenic meningitis
Viral encephalitis
Skull trauma
Stroke
Toxic metabolic disorders
Epilepsy
Cerebral palsy
Migraine

APPENDIX E

Anticonvulsants
Anticerebral oedema agents
Anticoagulants
Anti migraine drugs
Antiparkinsonian drugs
Antimicrobials

OBJECTIVES OF SKIN BLOCK
(IMPLEMENTATION IN PHASE III)

A. NORMAL STRUCTURE AND FUNCTION

1. Describe the blood supply, lymphatic drainage and innervation of the skin

2. Describe the functions of the skin.

B. ALTERED STRUCTURE AND FUNCTION

1. Name the causative organisms and describe the mode in infection, mechanism of injury and structural and functional alterations brought in the following conditions:-

   1.1. Common acute and chronic infections of the skin (Bacterial, viral, parasitic and fungal)

   1.2. Tuberculosis and leprosy

   1.3. Common infestations - scabies, pediculosis

2. Describe the causes, mechanisms and structural changes seen in

   2.1. Eczema
   2.2. Urticarial reactions
   2.3. Psoriasis
   2.4. Drug induced reactions
   2.5. Pigmentary disorders

3. List the various exanthematous lesions and describe their causes and mode of evolution.

4. Name the various common beingn and malignant tumours of the skin and the causative factors associated with them.

5. Describe the morphological changes seen in the above tumours.

C. CLINICAL APPLICATION

1. Obtain history and identify the symptoms suggestive of diseases of skin and other symptoms that are secondary or related to the diseases of the skin (Appendix A)

2. Perform physical examination to elicit signs pertaining to the skin. (Appendix B)

3. Relate the presenting signs and symptoms to altered structure and functions.

4. Generate diagnostic possibilities based on the signs, symptoms and epidemeological data.

5. Identify laboratory investigations required to confirm the diagnostic possibilities. (Appendix C)

6. Explain the rationale and scientific basis of the investigations identified.

7. Interpret the results of the laboratory investigations in the light of clinical picture and the normal values.

8. Support with evidence the diagnostic choice in a given patient.

9. Outline the management plan comprising of curative, preventive, rehabilitative and psycho-social aspects. (Appendix D)

10. Describe the mechanism of action, distribution and excretion of the drugs precribed. (Appendix E)

11. Appraise complications that can be expected from such medications.

APPENDIX A

Symptoms

1. Pruritus
2. Discoloration
3. Altered sensation
4. Swelling
5. Loss of hair (Alopecia)
6. Scaling
7. Ulceration
8. Blisters
9. Rashes
10. Echymosis
11. Hyperhidrosis/anhidrosis
12. Hair and nail changes
13. Changes in character of the skin

APPENDIX B

Signs

1. Macule
2. Papule
3. Vesicle
4. Bulla
5. Pustule
6. Nodule
7. Hypo-and hyperpigmented patches
8. Signs of inflammation
9. Vascular reactions
10. Eczematons lesions including exfoliative dermatitis
11. Alopecia
12. Ulceration and erosions
13. Keratosis
14. Urticaria
15. Loss of sensation
16. Tumour
17. Atrophy of the skin
18. Signs of nultritunal dificiency
19. Mucosal changes
20. Lymphadenopathy

APPENDIX C

Investigations

1. Skin scraping
2. SKin biopsy
3. Smear for microbiological investigations
4. V.D.R.L.
5. L.E. cell test
6. Immunofluorescent study on the skin biopsy
7. Hemogram

APPENDIX D

Management

1. Prevention

    1.1. Common infectious diseases
    1.2. Occupational hazards
    1.3. Allergic dermatitis
    1.4. Common infestations of the skin

2. Curative

    2.1. Drugs
    2.2. Surgery
    2.3. Radiotherapy

3. Psychosocial
    holistic perspectives in skin disorders

APPENDIX E

Drugs

1. Antimicrobial
2. Steroids
3. Chemotherapeutics
4. Antihistaminincs
5. Keratolytic agents
6. Topical and systemic anti inflammatory agents.